ISOM 4010

DIGITAL BUSINESS STRATEGY: HARNESSING PLATFORM, CROWD, AND MACHINE

SUMMER 2025

Course Instructor	Dr. Yongsuk ("Yong") KIM Dept. of Information Systems, Business Statistics, and Operations Management (ISOM)
Class Times/Location	July 14 – August 4 (Mon/Wed/Fri) 14:00-17:20(50) / LSK.G001
Office Hours	Immediately after class or by appointment
Email	yongskim@ust.hk
Teaching Assistant	Cetus WONG (imhtwong@ust.hk)

Course Overview and Objectives

This course provides students with a broad understanding of the opportunities and challenges presented by the modern digital revolution. The three key elements that sum up the modern digital revolution are online/digital platforms, AI-driven machines, and crowds. Platforms are transforming the technology, banking, logistics, and media industries, to name a few. A platform brings in different groups of ecosystem partners who join the platform network on the condition that it creates value for them. Information and communication technologies (ICT) and artificial intelligence (AI) enable and drive digital platforms, creating and nurturing networks and facilitating value-creating matches and interactions. Rather than remaining passive consumers, crowds are actively participating in platforms as providers of content, products, services, and social currency. The three elements are so intertwined that one cannot be understood without the others.

Digital platform businesses present a number of unique challenges that traditional product businesses do not. For example, platforms inevitably run into the "chicken or the egg" problem - a situation in which no ecosystem partner wants to be the first to join the network unless there are other partners with whom they want to interact. Platforms often give away content and services for free instead of profiting from them. Platforms create value using resources they don't own or control (the resources are mostly from the crowd), and as a result they can grow much faster than traditional businesses.

In this course, students will explore a wide range of examples of digital platforms powered by technology and crowds. We will learn about the fundamental principles behind platform innovation and disruption today and tomorrow. Students will learn through lectures, case discussions, web-based simulation, and a group project.

Learning Objectives

1. Analyze critical dilemmas presented by digital platforms and their impact on established business assumptions.
2. Explain core concepts, theories, and frameworks pertinent to the structure and strategy of digital platform businesses.
3. Apply concepts and frameworks from the course to analyze digital platform business cases. &
4. Design a viable business model for a novel or improved digital platform, incorporating principles and frameworks from the course.

About the Instructor

Dr. Yongsuk Kim received his doctoral degree at the McCombs School of Business at the University of Texas at Austin. He also holds a master's degree in Human Computer Interaction (HCI) from the University of Michigan at Ann Arbor. Prior to graduate studies, he worked at IBM Business Consulting Services. In his research, he investigates enterprise social network and online communities from the knowledge management perspective. He also studies IT-enabled open innovation such as user innovation community and crowdfunding.

Course Materials

- Course materials will be available on Canvas
- Recommended books
  - **Platform Revolution by Parker, Van Alstyne, and Choudary**
  - *Machine, Platform, Crowd* by Erik Brynjolfsson, Andrew McAfee
  - *Business of Platforms* by Cusumano, Gawer, and Yoffie
  - *Matchmakers* by Evans and Schmalensee

Use of Generative AI (e.g., ChatGPT) in Coursework

This course acknowledges the growing presence and potential of generative AI tools such as ChatGPT, Claude, DeepSeek, Gemini, and others in academic and professional settings. When used responsibly, these tools can support the learning process by enhancing clarity, organization, and presentation. However, their use must always align with the pedagogical goals of this course — namely, the development of your own critical thinking, creativity, and analytical reasoning.

Permitted Uses of AI Tools:

You may use AI tools to:

- Improve the readability and flow of written content.
- Strengthen logical clarity or organization in your arguments.
- Assist with idea organization or locating relevant sources (you are still responsible for verifying all content).
- Enhance visual storytelling or slide design (e.g., layout suggestions, concept visualization).

<u>Restrictions and Responsibilities:</u>

- Do not use AI to generate full drafts by simply pasting the assignment prompt and reproducing the output.
- You must own the ideas and direction of your work. AI may assist, but it must not initiate or replace your core thinking process.
- All substantive content must be developed by you (and your team, in group work), independently of AI until your own ideas are formed.
- Over-reliance on AI leads to generic, low-quality results — such work will not receive a high grade.
- If you use AI for research or content assistance, you are responsible for fact-checking and referencing where appropriate. AI tools are prone to factual errors and hallucinations.

By following these guidelines, we aim to ensure that generative AI serves as a productive complement to your own intellectual effort — not a substitute for it.

Course Requirements and Grading

<u>Grading</u>

Percent	Requirement	Note
6%	Class Attendance	Throughout the semester
4%	Class Contribution (including Show and Tell)	Throughout the semester
5%	Platform Competition Simulation	In S9
35%	<u>Group Project:</u> Group: content quality (29%) Individual: presentation performance (6%)	In S10 (From groups by S2)
50%	<u>Exam I & II</u> Exam I: MCQ-based test (40%) Exam II: Essay-based test (10%)	In S11

<u>Class Attendance (6%) and Contribution (4%)</u>
Attendance(6): I will come to class on time, and I expect you to do the same. The TA will check your attendance regularly. Each time you miss class, you will lose 1 point AFTER your first absence.

Contribution(3): I encourage you to participate actively in class. Alternatively, you can use Canvas>Discussions to ask/answer questions and share relevant news and content to be considered active. I will occasionally ask you to do some quick research and post your findings in Discussions. Your participation will be considered a contribution.

Show and Tell (1): Students will form groups to deliver brief (5-6 mins.) and casual presentations on platform businesses that are not available or not yet popular in HK and feature concepts that are new or fresh to many in HK (e.g., ClassPass, Robinhood). The goal of these presentations is to broaden students' understanding of the diverse types of successful or innovative platform businesses that are well-received globally. We will have a couple of show and tell presentations in every session.

In-class Simulation (5%)

In S9, we will run a web-based simulation designed to give students the opportunity to develop their skills in managing a two-sided platform operating in a competitive environment. Students will form teams. Two teams will be paired up to compete against each other twice (first round and second round). Each team will be the owner of one of the two competing platforms. Each team will be responsible for designing the platform's pricing and R&D strategies.

	Condition	Point earned
Round 1	If your team's net profit > 0	1
	If your team wins	1
Round 2	If your team's net profit > 0	1
	If your team wins	1
Both combined	Depending on your overall team performance (based on your accumulated net profits from R1 and R2)	0 ~ 1

Final Group Project (35%)

Group Composition and Roles:
- All members are expected to contribute equally to the assignment. Peer evaluations will be conducted at the end of the term to assess individual contributions.
- In case of significant freeriding issues that cannot be resolved within the group, the project leader must inform me promptly.
- Groups must be formed by the second class (S2).

Deliverables and Presentation:
- Groups will deliver an approximately 15-minute presentation on Aug 4, addressing the topics below.
- All members must participate as presenters; however, individual presentation times may vary.

- No final report is required—presentation slides will suffice. Slides must be submitted on the day of the presentation, and the notes section in PowerPoint may be used to provide supplementary information.
- Individual presentation performance will be evaluated alongside group content quality. Presenters are expected to deliver their parts confidently and professionally without over-reliance on notes.

Topics to cover:

- **Pull (5 sides in total):**
  (1) Identify and prioritize the different sides of the platform, specifying whom to attract first, second, and so on, and justify the rationale for this sequence; and
  (2) Explain your detailed onboarding strategy by addressing the chicken-or-egg problem facing your platform and propose strategies to overcome it.

- **Facilitate:** Outline strategies for building and maintaining trust by reducing *major* interaction risks and ensuring high-quality interactions.
- **Monetization:** (1) Expand your two-sided platform into 5-sided platform by identifying and clearly defining three additional stakeholder groups that can interact meaningfully within your ecosystem. Consider how each new side brings value to the platform and how their participation enhances the network effects'; and (2) propose a sustainable business model (i.e., how will you make money from whom).

Important criteria:

- Specificity (Be specific! Don't be broad and shallow)
- Reasoning (Be logical. Justify your choices/recommendations)
- Feasibility (Realistic? Implementable?)
- Novelty/Creativity (Can you go beyond the obvious? Any killer idea?)

To ensure fairness and accountability:

- A **peer evaluation** will be conducted at the end of the semester to assess individual contributions and address any cases of free riding or misuse of AI tools.
- For all **group presentations**, the final slide must include a clear declaration of:
  1. **Role attribution** – Who did what in the project.
  2. **AI tool usage** – Whether any AI tools were used, which tools, for what part(s) of the work, and for what purpose (e.g., language refinement, visual aid design, brainstorming).

<u>Final Exam (50%)</u>

In the last session (S11), we will have the final exam. The final exam will be based on the topics and related concepts taught in class. **You are allowed to prepare an A4-size cheat sheet (only front page can be used) for the exam.**

If you miss the deadline due to extraordinary circumstances such as unexpected hospitalization or loss of a family member, please let me know as soon as possible and contact me with a doctor's note and/or verifiable, reliable, and valid evidence. Only under such extraordinary circumstances will an oral exam be scheduled for you. In all other cases, there will be no make-up tests. **Time conflicts with job interviews, other exams, travel plans, etc. will not be considered.**

Course Outline (subject to change)

Session	Topic
S1	What is a platform? Network Effects and Platform Architecture
S2	**Pull: Evolution of Multi-sided Platforms** Chicken-and-Egg Problem * Final group formation
S3-S4	**Pull: Chicken-and-Egg Solutions** **Onboarding Strategy**
S5	Match: Data and AI
S6	**Facilitate: Transaction Facilitation and Platform Governance** **Monetization**
S7	Platform's Viral Growth and Metrics Disintermediation
S8	Platform Competition and Winner-take-all Market
S9	Platform Simulation Wrap-up
S10	Presentations
S11	Final Exam